

KINGDOM OF SAUDI ARABIA
Ministry of Petroleum and Mineral Resources
Directorate General of Mineral Resources
Organization U.S. GEOLOGICAL SURVEY
Mineral Occurrence
FARAH GARAN
Drill Hole Number: FG-1
Survey Data
Date Started: Oct 23, 1978
Date Completed: Dec 18, 1978
Hole Size: No. 0-41.50 m
Driller: AOC
Collar Coord: Lat. 17° 40' 30" N Long. 43° 38' 05" E
Grid Reference: GREEN N WICH
Subsurface (Feet or Meters):
Depth: 0-100
Interval: 100
Inclination: 0°
Azimuth: 0°

DEPTH (FEET)	DEPTH (METERS)	STRUCTURE	LITHOLOGY	MINERALIZATION	ANALYSES	AVERAGES
0	0	CONTACT	QUARTZ CRYSTAL TUFF.	SPHALERITE, SPARSE, ON QUARTZ CRYSTALS.		
10	3	CONTACT	GRAPHIC SCHIST WITH CALCAREOUS LENSES.			
15	4.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
20	6	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
25	7.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
30	9	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
35	10.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
40	12	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
45	13.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
50	15	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
55	16.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
60	18	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
65	19.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
70	21	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
75	22.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
80	24	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
85	25.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
90	27	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
95	28.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
100	30	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
105	31.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
110	33	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
115	34.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
120	36	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
125	37.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
130	39	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
135	40.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
140	42	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
145	43.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
150	45	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
155	46.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
160	48	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
165	49.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
170	51	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
175	52.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
180	54	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
185	55.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
190	57	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
195	58.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
200	60	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
205	61.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
210	63	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
215	64.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
220	66	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
225	67.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
230	69	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
235	70.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
240	72	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
245	73.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
250	75	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
255	76.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
260	78	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
265	79.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
270	81	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
275	82.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
280	84	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
285	85.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
290	87	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
295	88.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
300	90	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
305	91.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
310	93	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
315	94.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
320	96	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
325	97.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
330	99	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
335	100.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
340	102	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
345	103.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
350	105	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
355	106.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
360	108	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
365	109.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
370	111	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
375	112.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
380	114	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
385	115.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
390	117	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
395	118.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
400	120	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
405	121.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
410	123	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
415	124.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
420	126	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
425	127.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
430	129	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
435	130.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
440	132	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
445	133.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
450	135	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
455	136.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
460	138	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
465	139.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
470	141	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
475	142.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
480	144	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
485	145.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
490	147	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
495	148.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
500	150	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
505	151.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
510	153	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
515	154.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
520	156	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
525	157.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
530	159	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
535	160.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
540	162	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
545	163.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
550	165	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
555	166.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
560	168	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
565	169.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
570	171	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
575	172.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
580	174	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
585	175.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
590	177	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
595	178.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
600	180	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
605	181.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
610	183	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
615	184.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
620	186	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
625	187.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
630	189	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
635	190.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
640	192	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
645	193.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
650	195	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
655	196.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
660	198	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
665	199.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
670	201	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
675	202.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
680	204	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
685	205.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
690	207	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
695	208.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
700	210	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
705	211.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
710	213	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
715	214.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
720	216	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
725	217.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
730	219	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
735	220.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
740	222	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
745	223.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
750	225	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
755	226.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
760	228	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
765	229.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
770	231	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
775	232.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
780	234	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
785	235.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
790	237	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
795	238.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
800	240	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
805	241.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
810	243	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
815	244.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
820	246	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
825	247.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
830	249	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
835	250.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
840	252	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
845	253.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
850	255	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
855	256.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
860	258	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
865	259.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
870	261	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
875	262.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
880	264	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
885	265.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
890	267	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
895	268.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
900	270	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
905	271.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
910	273	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
915	274.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
920	276	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
925	277.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
930	279	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
935	280.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
940	282	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
945	283.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
950	285	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
955	286.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
960	288	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
965	289.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
970	291	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
975	292.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
980	294	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
985	295.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
990	297	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
995	298.5	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			
1000	300	CONTACT	QUARTZ CRYSTAL TUFF, BANDED.			

INSET FROM F.G.-3

PYRITE, ABUNDANT, CHALCOPYRITE AND SPHALER- ITE, SPARSE ALONG FOLIA.	77.80	1.00	130730	0.14	1.4	0.011	0.045
	78.50	1.00	130731	0.28	2.2	0.120	0.035
	79.20	1.00	130732	0.28	0.7	0.005	0.005
	80.00	0.95	130733	0.44	2.0	0.03	0.270
	80.75	0.95	130734	0.50	2.0	0.03	0.270
	81.50	0.95	130735	0.50	2.0	0.03	0.270
	82.25	0.95	130736	0.50	2.0	0.03	0.270
	83.00	0.95	130737	0.50	2.0	0.03	0.270
	83.75	0.95	130738	0.50	2.0	0.03	0.270
	84.50	0.95	130739	0.50	2.0	0.03	0.270
	85.25	1.00	130740	0.28	1.6	0.060	0.020
	86.00	1.00	130741	0.40	2.8	0.017	0.010
SPHALERITE, ABUNDANT, CHAL- COPYRITE MODERATE, TETRA- HEDRITE, SCATTERED.	87.00	1.00	130742	1.80	11.00	0.255	0.845
	88.00	1.00	130743	0.14	0.60	0.030	0.140
	89.00	1.00	130744	0.005	1.5	0.005	0.010
	90.00	1.00	130745	0.005	1.1	0.005	0.030
	91.00	1.00	130746	0.14	1.1	0.02	0.10
	92.00	1.00	130747	0.005	1.3	0.02	0.040
	93.00	1.00	130748	0.005	1.8	0.005	0.075
	94.00	1.00	130749	0.005	1.7	0.02	0.035
	95.00	1.00	130750	0.005	1.8	0.03	0.200
	96.00	1.00	130751	0.34	5.5	0.090	0.265
	97.00	1.00	130752	0.44	10.0	0.210	0.620
	98.00	1.00	130753	0.30	19.0	0.620	3.35
	99.00	1.00	130754	0.30	18.0	3.50	0.21
	100.00	1.00	130755	0.005	1.0	0.005	0.020
	101.00	1.00	130756	0.00	16.00	3.50	0.245
	102.00	1.00	130757	0.08	1.04	0.07	0.09
	103.00	1.00	130758	0.08	0.80	0.07	0.10
SPHALERITE, SPARSE WITH TETRAHEDRITE? 10cm SPHALERITE, SPARSE, SMALL CRYSTALS SPHALERITE AND LESSER CHALCOPYRITE, 20cm AT 76.74m, SPARSE TO MODERATE, 97.35m TO 98.20m. BRECCIATED ZONE WITH MODERATE SPHALERITE AND LESSER CHALCOPYRITE- 20cm AT 100.40 m.	104.00	1.00	130759	0.08	0.80	0.07	0.10